IN THE CLAIMS:

The present status of the claims is as follows:

1.   (Currently amended) A method of processing a first data packet, transmitted over a network from a source to a first recipient, said first data packet comprising a header layer and an application data layer, and a second data packet transmitted over said network from the first recipient to the source, said method comprising:

(a)   capturing said first data packet from said network prior to its reception by said first recipient;

(b)   analyzing said header layer of said first data packet according to a first rule;

(c)   examining, selectively, a dynamically specified portion of said application data layer of said first data packet according to a second rule;

(d)   determining a first action to be taken on said first data packet according to a third rule; and

(e)   performing said first action on said first data packet,

wherein said first action comprises at least storing information related to said first data packet;

(f)   capturing said second data packet from said network prior to its reception by said source;

(g)   analyzing a header layer of said second data packet according to a fourth rule;

(h)   examining, selectively, a dynamically specified portion of said application data layer of said second data packet according to a fifth rule;

(i)   determining a second action to be taken on said second data packet according to a sixth rule; and

(j)   performing said second action on said second data packet; and

wherein at least one of said fourth rule, said fifth rule, said sixth rule or combinations thereof, is based on said stored information.

2.   (Cancelled)

3.   (Original) The method of Claim 1, wherein said capturing further comprises intercepting said first data packet prior to receipt by a network router.

4.   (Currently amended) The method of Claim 1, wherein said capturing is performed by a packet interceptor, said method further comprising:

     (f k)   allowing redefinition of at least one of said first, second, third, fourth, fifth, sixth and third rules, or combinations thereof, by an entity external to said packet interceptor.

5.   (Original) The method of Claim 4, wherein said allowing further comprises allowing dynamic redefinition.

6.   (Currently amended) The method of Claim 1, further comprising:

     (f k)   redefining, remotely, at least one of said first, second, third, fourth, fifth, sixth rules, or combinations thereof and third rules.

7.   (Currently Amended) The method of Claim 1, wherein said second and third rules are based at least in part on said analysis of said header layer of said first data packet and said fifth and sixth rules are based at least in part on said analysis of said header layer of said second data packet.

8.   (Currently Amended) The method of Claim 1, wherein said analyzing (b) further comprises determining a first result of said first rule, said examining (c) further comprises determining a second result of said second rule, said determining (d) further comprising determining said first action to be taken on said first data packet according to said first and second results.

9.   (Currently amended) The method of Claim 1, wherein further comprising:

     (k)   predefining said first, second and third rules.

10.   (Currently Amended) The method of Claim 1, wherein ~~said analyzing~~ (b)
        further comprises no analysis of said header layer according to said first rule.

11.   (Currently Amended) The method of Claim 1, wherein ~~said examining~~ (c)
        further comprises no examination of said application data layer according to
        said second rule.

12.   (Currently Amended) The method of Claim 1, wherein said header layer <u>of</u>
        <u>said first data packet</u> further comprises a network address, ~~said analyzing~~ (b)
        further comprises analyzing said network address according to said first rule.

13.   (Original) The method of Claim 12, wherein said first rule comprises
        determining whether said network address matches a pre-defined criteria.

14.   (Currently Amended) The method of Claim 1, wherein said header layer <u>of</u>
        <u>said first and second data packets</u> further comprises a network address and said
        network address comprises a transport control port address.

15.   (Currently Amended) The method of Claim 1, wherein said header layer <u>of</u>
        <u>said first and second data packets</u> further comprises a network address and said
        network address comprises an internet protocol address.

16.   (Currently Amended) The method of Claim 1, wherein said header layer <u>of</u>
        <u>said first and second data packets</u> further comprises a network address and said
        network address comprises a media access control address.

17.   (Currently Amended) The method of Claim 1, wherein said application data
        layer <u>of said first data packet</u> comprises application data generated by said
        source.

18.   (Original) The method of Claim 17, wherein said application data comprises a
        uniform resource locator and further wherein said second rule comprises

determining whether said uniform resource locator matches a pre-defined criteria.

19.   (Currently Amended) The method of Claim 1, wherein ~~said capturing~~ (a) further comprises capturing by a packet interceptor, said first action comprises:

forwarding said first data packet to an entity external to said packet interceptor, said external entity being different from said first recipient.

20.   (Original) The method of Claim 1, wherein said first action comprises:

releasing said first data packet to said network.

21.   (Currently amended) The method of Claim 1, wherein ~~said capturing~~ (a) is performed by a packet interceptor, said first action comprises:

copying said first data packet to a ~~second~~ third data packet; and

forwarding said ~~second~~ third data packet to an entity external to said packet interceptor, said external entity being different from said first recipient.

22.   (Original) The method of Claim 21, wherein said first action further comprises:

receiving a command from said external entity dictating a second action be taken on said first data packet.

23.   (Original) The method of Claim 22, wherein said second action comprises deleting said first data packet.

24.   (Original) The method of Claim 22, wherein said second action comprises releasing said first data packet to said network.

25.   (Original) The method of Claim 21, wherein said first action further comprises:

releasing said first data packet to said network.

26.   (Original) The method of Claim 1, wherein said first action comprises:

modifying said first data packet; and

releasing said modified first data packet to said network.

27.   (Original) The method of Claim 26, wherein said modifying further includes:

modifying at least a portion of said header layer.

28.   (Original) The method of Claim 26, wherein said modifying further includes:

modifying at least a portion of said application data layer.

29.   (Currently amended) The method of Claim 1, wherein said first action comprises:

transmitting a response to said source based on said first data packet according to a ~~fourth~~ <u>seventh</u> rule.

30.   (Original) The method of Claim 29, wherein said first action further comprises configuring said response to appear to originate from said first recipient.

31.   (Currently amended) The method of Claim 1, wherein ~~said capturing~~ <u>(a)</u> is performed by a packet interceptor, said packet interceptor comprising a plurality of rule sets and wherein a first rule set of said plurality of rule sets comprises said first, second and third rules and said first action, said method further comprising:

(~~f~~ <u>k</u>)   determining which of said plurality of rule sets to apply to said first data packet.

32.   (Currently amended) The method of Claim 1, wherein ~~said capturing~~ <u>(a)</u> is performed by a packet interceptor, said method further comprising:

(~~f~~ <u>k</u>)   facilitating performing ~~(a), (b), (c), (d) and (e)~~ <u>(a)-(j)</u> non-invasively with respect to said network for a plurality of entities external to said packet interceptor.

33.   (Currently amended) The method of Claim 1, said method further comprising:

      (k)   performing ~~(a), (b), (c), (d) and (e)~~ (a)-(j) by a router.

34.   (Currently amended) The method of Claim 1, wherein ~~said capturing~~ (a) is performed by a packet interceptor, said method further comprising:

      (f k)   receiving a ~~second~~ third data packet from an entity external to said packet interceptor, said ~~second~~ third data packet directed to said packet interceptor; and

      (g l)   introducing said ~~second~~ third data packet into said network.

35.   . (Currently amended) The method of Claim 1, wherein said network is characterized by a wire speed, said method further comprising performing (a)-(e) and (f)-(j) at least at said wire speed.

36.   (Original) The method of Claim 1, wherein said first data packet is characterized seven Open Systems Interconnection ("OSI") defined layers, said dynamically specified portion comprising any at least one of said seven layers.

37.   (Original) The method of Claim 1, wherein said network comprises an optical network.

38.   (Original) The method of Claim 1, wherein said network comprises an electrical network.

39.   (Currently amended) The method of Claim 1, wherein (b) further comprises determining a first result of said first rule and (c) further comprises determining a second result of said rule, said ~~method further~~ stored information comprising~~:~~ at least one of said first result, said second result or combinations thereof

      ~~(f)   storing said first and second results;~~

      ~~(g)   capturing a second data packet from said network prior to its reception by said first recipient;~~

(h)   ~~analyzing said header layer of said second data packet according to said first rule and at least one of said stored first and second results;~~

(i)   ~~examining, selectively, a dynamically specified portion of said application data layer of said second data packet according to a second rule and at least one of said stored first and second results;~~

(j)   ~~determining a second action to be taken on said second data packet according to said third rule; and~~

(k)   ~~performing said second action on said second data packet.~~

40.   (Currently amended) The method of Claim 1, further comprising performing (a)-(~~e~~ j) invisibly to at least one of said source and said first recipient.

41.   (Currently amended) A method of processing a first data packet directed to a first recipient from a source over a network, said first data packet comprising header data and application data, said method comprising:

(a)   intercepting said first data packet prior to receipt by said first recipient;

(b)   capturing said first data packet in a buffer;

(c)   analyzing, selectively, said header data according to a first rule;

(d)   analyzing, selectively, a dynamically specified portion of said application data according to a second rule;

(e)   copying, selectively, said first data packet and forwarding, selectively, said copied first data packet to a second recipient different from said first recipient according to a third rule;

(f)   releasing, selectively, said first data packet back to said network according to a fourth rule;

(g)   modifying, selectively, said first data packet and releasing, selectively, said modified first data packet back to said network according to a fifth rule;

(h)   deleting, selectively, said first data packet from said buffer according to a sixth rule; and

(i)   storing, selectively, information about said first data packet according to a seventh rule; and

wherein at least one of said first rule, said second rule, said third rule, said fourth rule, said fifth rule, said sixth rule, said seventh rule, or combinations thereof, are based on a second packet previously transmitted over said network from said first recipient to said source.

42.   (Currently amended) The method of Claim 41, further comprising:

(j)   receiving a ~~second~~ third data packet from said second recipient and introducing said ~~second~~ third data packet into said network.

43.   (Original) The method of Claim 41, further comprising:

(j)   redefining said first, second, third, fourth, fifth, sixth and seventh rules by said second recipient.

44.   (Original) The method of Claim 41, further comprising:

(j)   performing (e) and (f) as a compound operation.

45.   (Original) The method of Claim 41, further comprising:

(j)   performing (e) and (g) as a compound operation.

46.   (Original) The method of Claim 41, further comprising:

(j)   performing (e) and (h) as a compound operation.

47.   (Original) The method of Claim 41, further comprising:

(j)   performing (g) and (h) as a compound operation.

48.   (Currently amended) The method of Claim 41, further comprising:

(j)   generating a ~~second~~ third data packet directed to said source in response to said first data packet according to an eighth rule.

49.   (Original) The method of Claim 41, further comprising performing (e), (f), (g) and (h) in response to a command from said second recipient.

50.   (Currently amended) An apparatus for processing a first packet transmitted over a network from a source to a first destination, said first packet comprising a header layer and an application data layer, said apparatus comprising:

a network interface operative to receive said first packet from said source;

a routing processor coupled with said network interface and operative to receive said first packet from said network interface and convey said first packet to said first destination; and

a packet processor coupled with said network interface and said routing processor, said packet processor comprising:

a memory operative to store information about a second packet previously transmitted from said first recipient to said source;

a packet analyzer <u>coupled with said memory and</u> operative to analyze said header layer according to a first rule and selectively analyze a dynamically specified portion of said application data layer according to a second rule; and

a packet redirector coupled with said <u>memory, said</u> packet analyzer and said routing processor and operative to selectively perform an action on said first packet according to a third rule prior to said conveyance by said routing processor<u>;</u>

<u>wherein at least one of said first rule, said second rule, said third rule, or combinations thereof, are based on said stored information.</u>

51.   (Original) The apparatus of Claim 50, wherein said packet processor further comprises a packet interceptor operative to buffer said first packet for analysis by said packet analyzer.

52.   (Original) The apparatus of Claim 50, wherein said packet processor is further coupled between said network interface and said routing processor.

53.   (Original) The apparatus of Claim 51, wherein said packet processor intercepts said first packet prior to receipt by said routing processor.

54.   (Original) The apparatus of Claim 50, wherein said packet processor further comprises an external device interface for communicating with a device external to said apparatus.

55.   (Original) The apparatus of Claim 54, wherein said first, second and third rules are capable of being redefined via said external device interface.

56.   (Original) The apparatus of Claim 54, wherein said action further comprises forwarding said first packet to said device.

57.   (Original) The apparatus of Claim 54, wherein said action further comprises creating a copy of said first packet, storing said first packet in a buffer and forwarding said copy to said device.

58.   (Original) The apparatus of Claim 57, wherein said action further comprises deleting said first packet in response to a command received from said device.

59.   (Original) The apparatus of Claim 57, wherein said action further comprises releasing said first packet to said routing processor in response to a command received from said device.

60.   (Currently amended) The apparatus of Claim 54, wherein said action further comprises receiving a ~~second~~ third packet from said external device and releasing said ~~second~~ third packet to said routing processor.

61.   (Original) The apparatus of Claim 50, wherein said action further comprises releasing said first packet to said routing processor.

62.   (Currently amended) The apparatus of Claim 50, wherein said action further comprises storing information about said first packet for use in analyzing a ~~second~~ third packet transmitted from said first destination to said source over said network.

63.   (Original) The apparatus of Claim 50, wherein said action further comprises modifying said first packet and releasing said modified packet to said routing processor.

64.   (Currently amended) The apparatus of Claim 50, wherein said action further comprises transmitting a ~~second~~ third packet to said source in response to said first packet.

65.   (Original) The apparatus of Claim 50, wherein said network is characterized by an operating speed, said apparatus operative to operate at least as fast as said operating speed.

66.   (Original) The apparatus of Claim 50, wherein said network comprises an optical network, said network interface being further operative to couple with said optical network.

67.   (Cancelled)

68.   (Original) The apparatus of Claim 50, wherein one of said source and said first destination is unaware of said apparatus.

69.   (Original) The apparatus of Claim 50, is logically invisible to said network.

70.   (Original) The apparatus of Claim 50, wherein said apparatus is selectively visible to at least one of said source and said first destination.

71.   (Original) The apparatus of Claim 70, wherein said apparatus is selectively network addressable.

72.   (Currently amended) An adapter for a router comprising:

    a router interface operative to couple said adapter with said router;

    a packet processor coupled with said router interface and operative to intercept a first packet from a source to a destination, prior to receipt by said router, said packet processor further comprising:

a memory operative to store information about a second packet previously transmitted from said destination to said source;

a buffer operative to receive and store said first packet for processing;

first logic coupled with said buffer and said memory, said first logic operative to apply a first function to a header layer of said first packet and produce a first result;

second logic coupled with said buffer and said memory, said second logic operative to apply a second function to a dynamically specified portion of said application data layer of said first packet and produce a second result; and

third logic coupled with said buffer, said memory and said first and second logic, said third logic operative to perform an operation on said first packet using a third function and said first and second results;

wherein at least one of said first function, said second function, said third function, or combinations thereof, are based on said stored information.

73.   (Original) The adapter of Claim 72, wherein said first, second and third logic are capable of being dynamically redefined.

74.   (Original) The adapter of Claim 72, wherein said second logic is further coupled with said first logic and further comprises an input for receiving said first result.

75.   (Original) The adapter of Claim 72, further comprising an external device interface operative to interconnect one or more devices to said packet processor, said devices being external to said router and said adapter.

76.   (Original) The adapter of Claim 75, wherein said packet processor is further operative to non-invasively interconnect said one or more devices to said network.

77. (Original) The adapter of Claim 75, wherein said packet processor is further operative to receive one or more commands from said one or more devices and wherein said first, second and third logic are further operative to respond to said one or more commands.

78. (Original) The adapter of Claim 75, wherein said third function comprises forwarding said first packet from said buffer to a first of said one or more devices based on said first and second results.

79. (Original) The adapter of Claim 75, wherein said third function comprises forwarding a copy of said first packet to a first of said one or more devices and retaining said first packet in said buffer based on said first and second results.

80. (Original) The adapter of Claim 79, wherein said third function further comprises forwarding said first packet from said buffer to said router in response to a command received from said first of said one or more devices.

81. (Original) The adapter of Claim 79, wherein said third function further comprises purging said first packet from said buffer in response to a command received from said first of said one or more devices.

82. (Currently amended) The adapter of Claim 75, wherein said packet processor is further operative to receive a ~~second~~ third packet from a first of said one or more devices and forward said ~~second~~ third packet to said router.

83. (Original) The adapter of Claim 72, wherein said first function comprises a comparison function.

84. (Original) The adapter of Claim 72, wherein said second function comprises a comparison function.

85.   (Original) The adapter of Claim 72, wherein said third function comprises forwarding said first packet from said buffer to said router based on said first and second results.

86.   (Original) The adapter of Claim 72, wherein said third function comprises modifying said first packet in said buffer and forwarding said modified packet from said buffer to said router based on said first and second results.

87.   (Currently amended) The adapter of Claim 72, wherein said first packet comprises a packet transmitted from a said source to a said destination over a network, said third function comprises storing information about said first packet for subsequent processing by said adapter of a second third packet transmitted from said destination to said source over said network.

88.   (Original) The adapter of Claim 72, wherein said third function comprises generating a response packet to said first packet and forwarding said response packet to said router based on said first and second results.

89.   (Original) The adapter of Claim 72, further comprising fourth logic coupled with said first, second and third logic, and operative to store state information related to said first and second results and said operation, said first, second and third logic being further operative to use said state information to produce said first and second results and perform said operation.

90.   (Currently amended) A system for facilitating a non-invasive interface to a network comprising:

a router coupled with said network and operative to route a first packet from a first source to a first destination; and

a packet processor coupled with said router and operative to receive said first packet from said first source and process said first packet prior to routing by said router, said packet processor including:

a rule set comprising first, second and third rules;

first logic operative to analyze a header layer of said first packet according to said first rule;

second logic operative to analyze a dynamically specified portion of said application data layer of said first packet according to said second rule;

third logic operative to perform a function on said first packet according to said third rule; and

an external interface operative to transparently couple a first external device to said packet processor;

wherein at least one of said first rule, said second rule, said third rule, said first logic, said second logic, said third logic, or combinations thereof, are based on a second packet previously transmitted over said network from said first destination to said first source.

91.   (Original) The system of Claim 90, wherein said function comprises forwarding a copy of said first packet to said first external device.

92.   (Original) The system of Claim 91, wherein said function further comprises forwarding said first packet to said router.

93.   (Original) The system of Claim 92, wherein said forwarding is in response to a command from said first external device.

94.   (Original) The system of Claim 91, wherein said function further comprises deleting said first packet.

95.   (Original) The system of Claim 94, wherein said deleting is in response to a command from said first external device.

96.   (Original) The system of Claim 90, wherein said function comprises forwarding said first packet to said router.

97.   (Original) The system of Claim 90, wherein said function further comprises storing information about said first packet.

98.   (Currently amended) The system of Claim 97, wherein said packet processor is further operative to receive a ~~second~~ third packet from said first destination for routing to said first source and process said ~~second~~ third packet prior to routing by said router, at least one of said first, second and third rules being based on said stored information.

99.   (Original) The system of Claim 90, wherein said function comprises deleting said first packet.

100.   (Original) The system of Claim 90, wherein said function comprises modifying said first packet and forwarding said modified first packet to said router.

101.   (Original) The system of Claim 100, wherein said function further comprises adapting a content of said application data layer.

102.   (Currently amended) The system of Claim 90, wherein said packet processor further comprises an external packet receiver operative to receive a ~~second~~ third packet generated by said first external device and forward said ~~second~~ third packet to said router.

103.   (Original) The system of Claim 90, wherein said function comprises formulating a response packet to said first packet and forwarding said response packet to said router for routing to said first source.

104.   (Original) The system of Claim 90, wherein said rule set is operative to be modified by said first external device.

105.   (Original) The system of Claim 90, wherein said first packet is allowed to be received by said router in parallel with said reception by said packet processor

and wherein said function further comprises preventing said routing of said first packet.

106.   (Original) The system of Claim 90, wherein said packet processor is characterized by a first latency and said router is characterized by a second latency, said system latency being substantially equivalent to the sum of said first and second latencies and wherein said external device is characterized by a third latency, said system latency being unaffected by said third latency.

107.   (Original) The system of Claim 90, wherein said external interface is operative to couple one or more of said external devices with said packet processor in parallel with the others of said one or more of said external devices.

108.   (Currently amended) An edge server coupled between a point-of-presence ("POP") and a network and operative to monitor a bidirectional network traffic stream passing between said POP and said network, said bidirectional network traffic stream comprising a first stream passing from said POP to said network and a second stream passing from said network to said POP, said edge server comprising:

a traffic interceptor operative to at least one of selectively intercept said network traffic stream between said POP and said network first stream based on at least a portion of said second stream prior to said first stream reaching its intended destination, selectively intercept said second stream based on at least a portion of said first stream prior to said second stream reaching its intended destination, or combinations thereof prior to said network traffic stream reaching its intended destination; and

a traffic modifier operative to modify said selectively intercepted traffic stream and reinsert said modified selectively intercepted traffic stream into said network.

109.   (Original) The edge server of Claim 108, wherein said network traffic stream comprises a plurality of packets, said traffic interceptor being further operative to selectively intercept at least one of said plurality of packets.

110.   (Original) The edge server of Claim 108, wherein said network is characterized by a transmission rate, said edge server capable of operating at least at said transmission rate.

111.   (Cancelled)